Neodalisque: An Experimental Study in High Relief Sculpture

A Thesis

Presented to

the Chancellor's Scholars Council of

The University of North Carolina at Pembroke

In Partial Fulfillment

of the Requirements for Completion of

the Chancellor's Scholars Program

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by

Christopher F. Jackson

12-1-97

Faculty Advisor's Approval _____

Date 12/3/97

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"The mark of a good man is the ability to move from failure to failure with enthusiasm."

Winston Churchill

As is often the case in human endeavors of any sort, what is envisioned and what actually occurs are two very different things. Such is the reality of my Chancellor's Scholars thesis. The purpose of this project was twofold. First, to learn as much as possible about sculpture, and, more importantly, to experiment and hopefully discover materials and techniques that could be shared with my future art students.

Initially, the plan was to produce a high relief sculpture in the classic style such as those produced in ancient Greece. The sculpture was to be eight ft. tall by eight ft. wide and about 6 in. deep. It was to have two life-sized human figures as its subject matter. The basic idea for my thesis project evolved from a combination of my prior experiences in sculpture and a somewhat grandiose perception of my own artistic talents.

Throughout most of this project, the point of the whole thing got lost in the desire to produce a really great work of art. Luckily though, as each step forward was met with two backwards, as every meager success was vanquished by an abysmal failure, the questions kept arising; Why am I doing this? What is the purpose for this project? What is it supposed to accomplish, and for whom? The answer to these questions can be summed up with one word: Learning. Some sort of significant learning is supposed to occur, for me now and hopefully for my students in the future.

After determining the subject matter and imagery of this piece, the first step was to identify the proper materials to be used.

The high relief sculpture of the ancient Greeks was typically done in marble. One of the few things that I was right about from the beginning was that I wouldn't be working in stone. The next best thing to stone, as far as I was concerned, was plaster. I arrived at this conclusion because I had some experience in subtractive sculpture in plaster.

Plaster has stone-like qualities such as hardness and weight but is much easier to sculpt and sand. The problem with a work in solid plaster, especially of the planned dimensions, would be that it would weigh several hundred pounds. This would make transportation of the work immensely difficult.

How a sculpture could be produced that looked like solid stone or plaster but with a fraction of the weight was the problem to be solved. Relief sculpture by definition is strictly subtractive, which means that a work is sculpted from a given mass of material (usually stone, wood, or plaster). Bits and pieces of material are chiseled and sanded away leaving the finished form but nothing is ever put back or added to the original mass. So, since the given mass had to be constructed in this case, the entire sculpture is actually additive and subtractive.

What seemed like the obvious answer was to build some sort of lightweight frame and apply a layer of plaster to this and then sculpt the finished image out of this layer of plaster. Because of a prior sculpture which was made out of a base of foam with a glass mosaic surface glued to it, the idea of using

this foam as a base was the first choice. But the cost of the foam that was to be used was very high. The foam was the type of polystyrene used by florists in silk flower arrangements.

After inquiring with two different florists and a floral supply distributor, the best price at which this foam could be purchased was almost four dollars a sheet. The sheets measured 2x12x24 inches and to purchase enough to do the sculpture would have cost over three hundred dollars. So, the idea of using foam as a base gave way to more affordable materials.

Thus began the process of experimentation. These experiments consisted of the construction of life-sized models of various parts of the body using different materials in an attempt to determine the most suitable materials to use.

The first experiment consisted of making a base out of chicken wire which was cut and stapled to a plywood background. The wire was bent so it would stick out and provide the "skeleton" of the figure. It was possible to shape the wire into the desired form although not very easily. Then a layer of plaster saturated gauze, known commercially as Rigid Wrap, was applied to the wire frame and allowed to dry.

The next step was to pour a layer of liquid plaster over the Rigid Wrap and allow this to dry. Once the plaster had dried, the intent was to chisel the finished form into the dry plaster surface. However, the wire "skeleton" proved to be too flexible and when pressure was applied with a chisel the

wire tended to give way and the plaster cracked and caved in. This reality coupled with the difficulty of working with the chicken wire showed that this method of construction was unacceptable and was gladly abandoned.

While the first attempt was a failure as a whole, there was a positive aspect to it. The wet plaster had bonded nicely with the Rigid Wrap and this combination seemed as though it would provide the "sculptable" surface desired. The problem was the skeleton. It had to be very rigid and lightweight but not necessarily hollow.

The next experimental piece was to have a "skeleton" of paper mache' with the Rigid Wrap and plaster applied on top. The paper mache' also proved to be an unsuitable material for the following reasons. It took too long to dry, it shrank in size, and the surface was not rigid enough to prevent cracking of the plaster when pressure was applied.

On the next attempt I carved a life-size human hand out of a piece of foam procured from a dumpster. Instead of applying a layer of Rigid Wrap I applied a layer of wet plaster directly onto the foam. When the plaster dried it shrank and cracked due to the high ratio of water to dry plaster in the solution. It was obvious that the Rigid Wrap was needed.

The next test piece was a life-size section of a face including one eye and the nose. On this piece the Rigid Wrap was applied to the foam and then the layer of wet plaster.

Once the plaster had dried, the facial features were chiseled and sanded to create the finished form. This experiment was a complete success and I felt ready to proceed.

With the failure of the chicken wire and the paper mache' as suitable material for the "skeleton" the idea of using foam resurfaced. The possibility of getting free or inexpensive foam became the focus. I was able to find some scraps of foam insulation board in a construction site trash pile and after some guy with a big hammer yelled at me and informed me that I was trespassing I was allowed to leave with all of my blood cells and a few pieces of foam. This particular type of foam, although free, proved to be unsuitable for use in this sculpture and was somewhat dangerous to acquire. Therefore, purchasing a type of foam that would work at an affordable price became the primary task at hand.

It occurred to me that there were types of foam used as commercial insulation so I began to make phone calls and was able to get the name of a company that builds industrial furnaces. The foam they use begins as a thick liquid and "cures" when exposed to air, becoming very rigid. This company is called Taylor Manufacturing Inc. and their plant is in Chadbourn, NC. I spoke to a salesman with the company and explained what I was trying to do and what I needed and he arranged for me to purchase enough foam for 25 dollars.

The next step was to build a frame on which to spray the foam. This was accomplished by cutting a 4x8 foot sheet of 1/2 inch wafer board into two pieces. One piece measured 3x8 feet while the other piece measured 1x8 feet. These pieces were fastened together at the long edges forming an "L" shape. A 2x2 inch board was screwed and glued to the inside angle of the "L" for support and a 1x4 inch brace was added at a 45 degree angle at both ends.

This frame was taken to the plant by truck and the foreman carried it into the plant on a forklift and sprayed it with a dark yellow liquid from a hose connected to a big tank. The liquid quickly began to set up and within a minute had formed skin that was rigid to the touch. He informed me that it would continue to cure for the next hour and handed me a scrap of fully cured foam from a previous spraying. I was able to cut and shape this scrap easily with a pocket knife and then I was sure I had the right material.

Finally it was time to actually do some sculpting. The actual size of the work had been reduced by more than half due to cost of material, rapidly diminishing time, and more importantly, the fact that I had taken on a very involved project. There was much more to this than initially anticipated. Now the sculpture would be of a single life-size human form.

The subject matter of the work had changed in my mind many times since the outset of this project. What was finally arrived at was a reclining nude female figure.

This idea was generated by two paintings. They are "Odalisque" by Jean Auguste Dominique Ingres and a work by Eugene Delacroix of the same name. The captivating sensuality of these images, especially in Delacroix's painting, spawned the desire to recreate this image three dimensionally.

In a prior sculpture, using welded metal, I had produced A 3D abstraction of Edgar Degas' painting "The Tub". In another sculpture I rendered a likeness of Winslow Homer's painting "The Gulf Stream" in plaster. These prior works also contributed to the decision concerning the subject matter of this sculpture.

Since the timing of the sculpture was to be contemporary, I arrived at the combination of Neo, or new, and odalisque. Hence the name, Neodalisque.

The actual work on this project began by sketching the figure onto the surface of the foam with a marker. Then began the process of cutting and sawing away the foam to create the shape of the figure. Ironically, this proved to be the least difficult part of the entire project, since this part was the most like true relief sculpture.

As time was getting short, I decided to start at the head and finish the sculpture from the head towards the feet. Once the body was roughed out from the head to just above the knees the process of applying the layers of plaster began. But before I applied any Rigid Wrap or plaster I decided to try one more experiment.

I purchased ten pounds of air dry clay. This particular type of clay is used in crafts and is supposed to dry very hard without being fired. The intent was to apply a thick layer of clay directly on the foam figure and once it had dried to chisel and sand it into the desired form. However, as the clay dried it shrank substantially and cracked even worse than the plaster had. So, it was back to the Rigid Wrap and plaster method.

The Rigid Wrap was then applied to the foam figure from the tips of the hair down to the middle of the thighs. Then a layer of wet plaster about one inch thick was poured over the form and allowed to dry. The problem with this method is that plaster begins to set very quickly and it tended to hang on the surface in random blobs making the surface very uneven. This made it difficult to ascertain the depth of the plaster at any given point.

Furthermore, when attempting to chisel this surface the plaster tended to break away from the Rigid Wrap in chunks. Things were not going well and I was getting very frustrated. I must admit that the idea of sacrificing this monstrosity to the Landfill God did spring to mind. I felt like I had bitten off way more than I could chew and I wondered why I had not just done a painting. But the desire to complete the Chancellor's Scholars Program prevailed and I pressed on.

The idea of a thinner plaster solution applied in layers arose and I decided to try that. Instead of the usual ratio of water to dry plaster I added three times the usual amount of water which produced a solution with the consistency of paint. After chipping off all of the plaster blobs I began to apply thin layers of this solution to the Rigid Wrap with a paintbrush. This method worked well since the thin layers of plaster dried very quickly I was able to build up a substantial thickness of plaster in a short amount of time.

Next the hair, the head, and the body was covered with successive layers of this thin plaster. Another positive aspect to this method is that, while regular plaster begins to harden as soon as it is mixed, this thinner version remains in a liquid state for much longer as long as it is occasionally stirred. Once again I thought I had found the method that would produce the optimum results. As it turns out, this has proven the best method so far. Unfortunately, this process was interrupted by another "great" idea.

It occurred to me that perhaps the air-dry clay that I had used in a previous experiment had been of inferior quality and that is why it had cracked so badly. After all, it was the cheapest clay I could find and, besides cracking, it had not performed the way the salesman said it would. He said it would dry very smooth and hard when in fact it dried with a

dusty, chalky finish and crumbled fairly easily. The idea that air-dry clay might be suitable, just not this type, seemed to be valid. So, off I went again in the wrong direction.

I purchased the most expensive type of air dry clay I could find. Five pounds cost as much as ten pounds of the cheap stuff. But, this clay performed the way it was supposed to. I made a test piece about a half an inch thick and allowed it to dry completely. It was very hard and smooth and it would chip more like ceramics than crumble like green clay. Once again I was sure I had found the perfect combination.

Since leather-hard clay is so much easier to work with than dry plaster, I intended to apply a layer of clay over the plaster and sculpt the finished image into the clay. But, the clay would not adhere to the dusty surface of the plaster. I knew that the clay would stick well to the bare foam, so I removed the plaster and the rigid wrap from the facial area (undoing several hours of work) and proceeded to apply a coat of the "good" clay about a half inch thick.

I knew something was wrong when the clay took two days to dry and the test piece had dried in a few hours. This can be explained in part by the fact that only one side of the clay on the sculpture was exposed to the air. For reasons that I still do not fully understand, the clay cracked all to pieces as it dried.

This final faux pas was enough to convince me of two things: the plaster on Rigid Wrap was probably the best method, and it is possible to do too much experimentation. With this resolved, the project proceeded using the plaster over Rigid Wrap method and it is with these materials that the work will be finished with the final image being chiseled and sanded into the outer layer of plaster.

Despite the many setbacks and failures and despite the fact that this sculpture looked much better in my mind than it does in real life, I feel that this project was a success. The purposes of this project, as I understand them, were both met. I certainly learned a great deal about high relief sculpture (mainly how not to do it), and through the many experiments conducted I discovered an affordable and practical method of exploring three dimensional art with my future students.

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